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Total No. of Pages: 02

Total No. of Questions: 09

**B. Tech. (Sem.-4<sup>th</sup>)**  
**AUTOMOTIVE ELECTRICALS SYSTEMS**

Subject Code: BTAE-404

Paper ID: [A1164]

Time: 3 Hrs.

Max. Marks: 60

**INSTRUCTIONS TO CANDIDATE:**

1. Section-A is compulsory.
2. Section-B Attempt any four questions.
3. Section-C Attempt any two questions.

**SECTION-A**

**Q. 1.****(10x2=20)**

- (a) What is the electrolyte used in lead acid battery?
- (b) Why should battery be not overcharged?
- (c) What is an alternator?
- (d) What are the requirements of a starting motor?
- (e) What is the function of an ignition coil?
- (f) What is the cause of spark plug fouling?
- (g) What is the function of a pulse generator?
- (h) What is dual head light system?
- (i) What is the function of defroster?
- (j) What do you understand by electric vehicle?

**SECTION-B**

**(4x5=20)**

- Q. 2.** Discuss the common faults occurring in the generators of charging system?
- Q. 3.** Discuss the characteristics of series motors.
- Q. 4.** Discuss the advantages of electric ignition system as compared to conventional ignition system.
- Q. 5.** Explain the working of speedometer with a sketch.
- Q. 6.** Discuss the drive arrangements in hybrid vehicle.

**SECTION-C**

**(2x10=20)**

- Q. 7.** Write a note on maintenance free batteries.
- Q. 8.** Describe the various components and working of fuel cell.
- Q. 9.** Discuss the working of a distributor less ignition system in an automobile.

**.....END.....**